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READING IN THE CONTENT AREAS--INSTRUCTION AND APPLICATION.

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DESCRIPTORS- *CONTENT READING, *READING SKILLS, *VOCABULARY SKILLS, *FUNDAMENTAL CONCEPTS, READING COMPREHENSION, TEACHING PROCEDURES, ABSTRACT REASONING, SCIENTIFIC CONCEPTS, MATHEMATICAL CONCEPTS, SOCIAL SCIENCES,

THE THEME OF THIS PAPER IS THAT EVERY TEACHER IS A TEACHER OF READING WHEREVER AND WHENEVER THE SKILLS ARE NEEDED. SINCE THE READING CONSULTANT IS PRIMARILY CONCERNED WITH REMEDIATION, THE NEED FOR IMPLEMENTING READING SKILLS IN SUBJECT MATTER COURSES IS IN THE HANDS OF THE TEACHERS IN EACH OF THESE AREAS. THE TEACHING OF THE FUNDAMENTAL UNDERSTANDINGS, THE LANGUAGE, AND THE TECHNICAL VOCABULARIES PECULIAR TO EACH CONTENT SUBJECT ARE DISCUSSED. THE IDENTIFICATION OF SPECIFIC SKILLS AND THE DETERMINATION OF PROCEDURES AND TECHNIQUES NECESSARY FOR TEACHING THOSE SKILLS IS EMPHASIZED. FUSING THE TEACHING CONTENT WITH READING IS IMPORTANT. FOR EXAMPLE, THOSE READING-STUDY SKILLS COMMON TO ALL CONTENT FIELDS REQUIRE A DIFFERENT AND PECULIAR USE IN SEPARATE SUBJECT-MATTER AREAS. THESE DIFFERENCES AS THEY APPLY TO CONTENT AREAS ARE DESCRIBED, AND PROCEDURES ARE SUGGESTED FOR VARIOUS PURPOSES AND TYPES OF MATERIAL. REFERENCES ARE INCLUDED. THIS PAPER WAS PRESENTED AT THE COLLEGE READING ASSOCIATION CONFERENCE (KNOXVILLE, TENN., APRIL 1968). (MC)

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READING IN THE CONTENT AREAS: INSTRUCTION AND APPLICATION

That reading should be taught in the content fields, no one will deny. Most educators would agree that it is a fundamental part of a total school program. The professional literature includes limited information about the need for reading instruction in the content fields as well as some mention of teaching procedures and techniques. The topic, reading in the content areas, is respectable. It is not controversial. Nor does it seem to be dramatic and capture the teacher's fancy and interest.

We do not do much about teaching reading in the content fields. Even after approximately a score and a half years of investigation and discussion, we do not seem to have broken beyond the general passive acceptance of the idea.

The reasons for this lack of implementation of reading skills to the content areas or at least, lack of concern for implementation maybe due in part to too little controversy. Perhaps the idea is blessed with too much tacit approval. Therefore we agree that we should teach reading in the content fields. "So, what else needs to be done? Let's go to more pressing matters." Another reason may be that there is still no training for subject specialists in the teaching of reading. Secondary school teachers are still trained to a subject matter specialty. Little in the area of methods of teaching is investigated. [redacted] And even if there were methods courses, little emphasis would likely be given to reading, because the instructor may not be trained in

reading. Once the teacher is in his school, the reading consultant or supervisor may not be of great help for two reasons. One, the reading consultant may be oriented toward and assigned remedial duties. These may be considered to be the most pressing problems in reading in the school. Secondly, the consultant may be a subject-matter specialist in English or social studies, but not in the sciences or mathematics. Consequently, the reading consultant may be and feel totally inadequate to help teachers in those areas. But, we obviously need to reconsider and plan specific programs to implement the reading skills in the subject-matter courses.

Of the various explosions mentioned as currently taking place, one is the knowledge explosion. Dire predictions are made when we consider the effect on the poor classroom teacher. The scope of knowledge is growing because of the increased levels of education for the people. Also, the almost magic means to effect communication makes the knowledge available to a degree unknown in any other age. Looking at the burgeoning of knowledge, we can come to only one valid conclusion, it would seem, about teaching in each of the subject-matter areas. We will not be able, as teachers to cover any field in such great depth that we will exhaust the field. We will have time only to teach the fundamental understandings of a subject-matter field. What this situation means for reading is that we must teach the student how to apply the reading skills needed to gain knowledge on his own. Increasingly, we read and hear statements that people will go to school continuously during their lifetime merely to keep up with the great bodies of knowledge. Much of this "keeping-up" will not be done with a teacher but independently by the student. He needs, then, to know not only the subject-matter, but, of equal importance, he needs to know how to obtain the subject-matter independently.

Perhaps the avenue which all subject-matter teachers should take is to lead into the reading skills through language. The student's proficiency in his ability to use his language—to speak it, listen to it, read it, and write it—will determine how well he is able to obtain knowledge in the content fields. We need to realize that there would not be any communication of subject-matter ideas without the medium of language. We need to realize also that often the difficulty a student has with a subject is with the language used to explain the subject-matter. Therefore, teachers will need to focus on language and how the student can use it most effectively and efficiently.

Teaching reading in each content subject is not a thing mysterious with peculiar practices and rituals denoting it. Some teachers, after their investigation of this aspect of reading, has said that the basic ideas of how reading is taught in the content fields is only good teaching. And, indeed, this is true. As we would find with any effective teaching, there are three conditions teachers need to meet. First, a philosophical base must be set forth which will serve as the foundation of the practices used in the classroom. Second, teachers need to identify the reading skills, both those common to all areas of content and those pertinent to their own subject. And, third, teachers will need to determine the procedures and techniques needed to teach the skills.

Philosophical Base.

There are five basic premises which set forth basic guidelines of thinking.

The first premise states that reading in the content fields is part of the total school reading program. This premise implies that each content area has its own peculiar application of each skill which it does. Also an implication

can be noted here that points toward what is needed to teach a skill. A student needs to have specific instruction in each skill and then he needs to practice the skill. Instruction and practice are requirements in partnership for student competency in any reading skill.

The second premise states that all teachers are responsible to teach their students the techniques needed to read their specific subjects. All teachers are involved because basic common sense would tell us to teach the skill and show how to apply it where the skill will be used. Levine has noted that the English teacher or reading teacher cannot teach the reading skills required for vocational subjects. English teachers cannot be expected to have the necessary knowledge of the technical vocabulary, idioms, or concepts, or offer practical application. Little transfer of learning of the reading skills learned in a literacy context to a technological factual context is found.[1]

The third premise states that the focus of teaching is changed from teaching content to teaching the student how to read and understand the content. The teacher teaches more than mere understandings and, hopefully, attitudes, important as these are. The emphasis is rather on the techniques and skills of getting the understanding from the printed material. Then, what teachers have noted is that as the students learn and apply the pertinent skills, the content understandings are learned as well. Skills cannot be taught except as they are wrapped in content.

The fourth premise states that teaching reading in the content fields is fused with the teaching of content. This premise is closely related to the one before it. Its main emphasis is that reading cannot be isolated from content. Reading skill instruction and content informational teaching are fused into one.

The final premise points out the interrelationship of skills and teaching procedures in each of the content fields. Strang suggests the common use of skills by stating that thinking is an inherent part of the reading process. She states that each of the word recognition skills--context clues, structural analysis, phonic analysis and even the use of the dictionary--requires seeing relationships and making judgements as to the relevance of similar forms or meanings to the word in question. Locating sources of information on a given topic may require an amazing amount of thinking. Outlining, summarizing, and paragraph reading are experiences in thinking and logical reasoning.[2] There are a large number of skills common to each content subject. For instance, each content subject requires student competency in vocabulary. There are words in our language used in all of the content subjects. This is common to all. Then, in addition, each subject requires its own application or use of the skill. Each content subject has a vocabulary peculiar to it.

Skills.

Upon investigation we find many of the reading-study skills, comprehension, critical reading and interpretive skills common to all content fields. That is, they are used by the competent reader as he reads any printed material. Nila Banton Smith states that skills common to all areas of subject-matter are word recognition, understanding meanings involving literal comprehension and making use of different rates of speed according to interest for reading and the nature of the subject matter. She also says that there are certain common study skills which are useful in all the subject fields. They are selection and evaluation, organization, recall, location of information and following directions.[3] But then each type of subject-matter tends to require a different and peculiar use of the skills.

The social studies has special vocabulary needs. Many of its words are labels of abstractions. Words such as republic, democracy, and nationalism are impossible to see in a concrete form. Then there are words which have a meaning in the social studies area and also in the scientific field. Such a word is revolution. General comprehension skills which are emphasized in the social studies area are seeing the sequences of events, noting relationships of cause and effect, time, place, and space. The author's point of view and the various subleties of propaganda are skills the student must be able to use if they go beyond their textbook into current and popular writing. Obviously, picture and map patterns are highly pertinent to the social studies.

The reading of scientific materials usually require a slow approach to reading in comparison to the faster reading of a story or non-technical information. The slow reading is required by the myriad of detail and the precise analytical thinking needed. Certainly vocabulary especially precision of meanings and technical words, is an important skill. In comprehension the student is lost if he is unable to see the organization of information — the interrelationship of main ideas to details (sequence, classification, explanation of a process, detailed statement of facts, and so on). Steps of problem solving need to be discerned in the printed material. Inferences, cause and effect relationships, formulating accurate generalization (drawing conclusions) and the application of laws and principles are important reading--thinking skills in the scientific area. Symbols of equations and formulas are certainly skills the student must be able to use in science.

The reading material of mathematics is similar to science, except perhaps, it is even more deeply packed. It is characterized by a density of facts concisely stated. Formulas and equations, tables and graphs abound and

each uses a symbolic language. It is interesting to note that mathematics content uses symbols to represent other symbols. For words which are symbols are further symbolized into letters or other definite characters. Following directions and following the steps of an explanation and problem solving are basic comprehension skills. Vocabulary, again, plays an important role. In mathematics there is both a technical vocabulary as well as general words with a specific mathematical meaning.

Procedure.

Procedures in the classroom should incorporate the reading skills. Certainly, there is a need to teach reading whenever the student is using printed materials. There are different procedures depending upon purpose and type of material, and variations on basic procedures. But, perhaps, there is one area of practice where emphasis is needed: to provide and develop student readiness to read the content material. So many times the assignment in a content class is, "Read the next five pages and know what it says." Instead, there are four fundamental contributions for readying a pupil to read with understanding. One, investigate and expand the student's background of experience about the topic. Two, preview with the student the printed material to help him discover the scope and depth of subject-matter. Three, discuss the vocabulary that represent the basic concepts of the material. Usually no more than two to four such words are developed at this time. And finally, help the student evolve a purpose for reading--something to look for as he reads, to read to find. These four points of procedure are not difficult or complicated. They do take time!

An old saying about this subject reading in the content fields is that every teacher is a teacher of reading. Let's say further, teach reading wherever and whenever the skills are needed.

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